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| 10/681,176 | 10/09/2003 | Dong-Gyoo Lee | 1349.1306 | 7870 |

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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

| EXAMINER | |
|---|---|
| CULLER, JILL E | |
| **ART UNIT** | **PAPER NUMBER** |
| 2854 | |

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|  |  |  |
|---|---|---|
| ***Office Action Summary*** | **Application No.**<br>10/681,176 | **Applicant(s)**<br>LEE ET AL. |
|  | **Examiner**<br>Jill E. Culler | **Art Unit**<br>2854 |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _April 21, 2006_.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-19_ is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-19_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _09 October 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☒ All b)☐ Some * c)☐ None of:
    1.☒ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,539,538 to Terao in view of U.S. Patent No. 5,800,083 to Gaarder et al. and U.S. Patent No. 5,366,306 to Mizutani et al.

With respect to claims 1-2, 4, 6-7 and 9, Terao teaches a combination printer comprising a paper feed module frame protruding from a first end of an upper surface of a base frame, a print module frame, 10, directly adjacent the paper feed module frame to support an image former, 7, to form an image on the fed papers, a scan module frame, 19, disposed adjacent to the print module frame protruding from a second end of the upper surface of the base frame opposite the first end to support a reader to read a document, the base frame, 1, to support the paper feed module frame, forming a conveyance path for the paper, the print module frame, and the scan module frame and to form a conveyance path for the paper, wherein the paper feed module frame, the base frame, the print module frame, and the scan module frame are integrally formed, and a cover to cover the frame to prevent the components from being exposed. See column 3, line 51 - column 4, line 24 and Figures 1-2 in particular.

Terao does not teach the paper feed module frame supports a stacker, including a pickup roller to separate the stacked papers sheet by sheet and feed the separated paper, and a paper feed part, defining a stacker on which plural sheets of the paper are stacked, the pickup roller being disposed thereon; or that the image former is an inkjet head, which performs a printing on the paper by spraying ink; or that the scan part is formed on the base frame in a bridge shape and the paper is conveyed between the scan part and a base frame. Terao also does not teach that the frame is a one-molding frame.

Gaarder et al. teaches the paper feed module frame supports a stacker, including a pickup roller, 32, to separate the stacked papers sheet by sheet and feed the separated paper and a paper feed part, 26, defining a stacker on which plural sheets of the paper are stacked, the pickup roller being disposed thereon, see column 4, lines 4-9; the image former is an inkjet head, 52, which performs a printing on the paper by spraying ink, see column 4, lines 30-32; and the scan part is formed on the base frame in a bridge shape and the paper is conveyed between the scan part and a base frame; see column 4, lines 27-30.

It would have been obvious to one having ordinary skill in the art at the time fo the invention to modify the printer of Terao to have the paper feed stacker, inkjet head and scan part design of Gaarder et al. in order to be able to process documents with more precise feeding, printing and scanning capabilities.

Mizutani et al. teaches a printer having a main frame formed of a one-piece structure molded from a plastic material. See column 4, lines 61-68.

It would have been obvious to one having ordinary skill in the art at the time of the invention to provide the frame of Gaarder et al. in a single molded piece as taught by Mizutani et al. in order to provide an apparatus that is easy to assemble and has high mechanical strength with a reduced number of parts and a simplified structure.

With respect to claims 3, 5, and 8, Terao does not teach a maintenance module frame, integrally formed with the base frame, to support a cleaner to clean the inkjet head and prevent the ink from getting dry.

Gaarder et al. teaches a maintenance module frame, integrally formed with the base frame, to support a cleaner to clean the inkjet head and prevent the ink from getting dry. See column 8 lines 5-8.

It would have been obvious to one having ordinary skill in the art at the time fo the invention to modify the printer of Terao to use the maintenance module of Gaarder et al. in order to keep the inkjet head clean, improving the accuracy of the printing function.

3. Claims 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terao in view of Gaarder et al. and Mizutani et al.

With respect to claims 10-12 and 14-15, Terao teaches an apparatus comprising a first unit to feed papers, a second unit, 7, directly adjacent to the first unit to form an image on the fed papers and a third unit, 13, adjacent the second unit to read a document wherein the first, second and third units are integrally formed, or a single piece, further comprising a base frame, 1, to support the first, second and third units, wherein the base frame comprises a path, 22, to discharge the image formed papers to an outside. See column 3, line 51 - column 4, line 24 and Figures 1-2 in particular.

Terao does not teach that the first unit stacks a plurality of papers and supports a first roller to separate the stacked papers sheet by sheet and feed them, or that the second unit supports an inkjet unit, comprising an inkjet head to spray ink and a guide bar to guide the inkjet head, to form the image on the fed papers, or that the first, second and third units are integrally formed or a single piece.

Gaarder et al. teaches an apparatus comprising a first unit, 26, to stack a plurality of sheets of paper, a first roller, 32, supported by the first unit to separate the stacked papers sheet by sheet and feed the separated papers; a second, inkjet unit, 24, adjacent the first unit, comprising an inkjet head, 52, to spray ink and a guide bar, 54, to guide the inkjet head to form an image on the fed papers. See column 4, lines 1-9 and 24-32.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the printer of Terao to have the paper feed stacker and inkjet unit design of Gaarder et al. in order to be able to process documents with more precise feeding and printing capabilities.

Mizutani et al. teaches a printer having a main frame formed of a one-piece structure molded from a plastic material. See column 4, lines 61-68.

It would have been obvious to one having ordinary skill in the art at the time of the invention to provide the frame of Terao, as modified by Gaarder et al., in a single molded piece as taught by Mizutani et al. in order to provide an apparatus that is easy to assemble and has high mechanical strength with a reduced number of parts and a simplified structure.

With respect to claims 13 and 16-18, Terao does not teach a maintenance unit, to support a cleaner to clean the inkjet head, a support unit, on the base frame facing the inkjet head to support the image formed paper, or a plurality of fixing walls protruding from the base frame in parallel with the second unit.

Gaarder et al. teaches a maintenance unit, to support a cleaner to clean the inkjet head, see column 8 lines 5-8, a support unit, on the base frame facing the inkjet head to support the image formed paper, see Figure 1, and a plurality of fixing walls protruding from the base frame in parallel with the second unit. See Figures 16 and 17.

It would have been obvious to one having ordinary skill in the art at the time of the invention to further modify the printer of Terao to have the maintenance unit, support unit, and fixing walls of Gaarder et al. in order to better keep the inkjet head clean, improving the accuracy of the printing function, to better support the image formed paper during printing and to more effectively fix the components of the printer within the frame.

With respect to claim 19, Terao teaches a sensor, 13, to scan the document. See column 5, lines 12-41.

Terao does not teach a second roller to pick up the scanned document or a third roller to convey the picked up document.

Gaarder et al. teaches a second roller, 42, to pick up the scanned document, and a third roller, 43, to convey the picked-up document. See column 4, lines 24-41 and Figure 1.

It would have been obvious to one having ordinary skill in the art at the time of the invention to further modify the printer of Terao to have second and third rollers, as taught by Gaarder et al., in order to more effectively move the papers through the printer.

## ***Response to Arguments***

4. Applicant's arguments filed April 21, 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that if Terao was modified to have a single piece structure, the leaf spring would have to be a part of the structure, this does not seem to be a relevant argument, as the claim requires the frames to be formed as a single piece and does not apply any restriction to additional components such as springs.

In response to applicant's argument that it would not be possible to form the element of Terao in metallic casing as a unit with the image sensor base, there is no requirement in the claims for any of the parts to be metallic, so one having ordinary skill in the art would know to modify Terao to use whatever materials were best suited to the application.

## *Conclusion*

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill E. Culler whose telephone number is (571) 272-2159. The examiner can normally be reached on M-F 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jec

**ANDREW H. HIRSHFELD**
**SUPERVISORY PATENT EXAMINER**
**TECHNOLOGY CENTER 2800**